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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WELTER, RACHAEL E	
ART UNIT	PAPER NUMBER
1611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,157	BREITENBACH, ARMIN	
	Examiner	Art Unit	
	RACHAEL E. WELTER	1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-31* is/are pending in the application.

4a) Of the above claim(s) *20-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-19 and 29-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/4/09* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/4/09 has been entered.

Claim Status

Claims 12-31 are pending. Claims 12-19 and 29-31 are directed to the elected species. Claims 20-28 are withdrawn. Claims 1-11 are cancelled. Claims 29-31 are newly added.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. The examiner notes that no English translation of the foreign priority application is needed at this time.

Drawings

The objection to the drawings is withdrawn in light of applicant filing acceptable replacement sheets.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 12-19 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farinas et al (US Patent No. 5,906,830) in view of Lauterbach et al (EP 1256340).

Farinas et al teach methods for manufacturing transdermal drug delivery systems containing supersaturated drug reservoirs (abstract). According to Farinas et al, a backing layer serves as the upper surface of the device and is substantially impermeable to the drug (column 4, lines 6-9). In addition, Farinas et al teach a polymer-drug admixture that results in a system with two liquid phases, one that contains polymer and one that contains drug (column 6, line s 36-41). Drugs which may be incorporated into the transdermal systems include dopaminergic agonists and

antagonists in amounts of preferably 0.1-20 wt.% (column 7, line 45; column 8, lines 45-50). Farinas et al teach that the drug phase when quenched rapidly becomes an amorphous, glass phase at ambient conditions (column 6, lines 42-44). As evidenced, by Figure 1 of Farinas et al, the drug can be supersaturated in the form of particles in the reservoir layer. Furthermore, Farinas et al teach that if a solvent is used, it is removed during or before heat treatment (column 8, lines 7-9). Farinas et al do not teach the addition of any crystallization inhibitors or dispersants and list that they are optional (column 8, lines 14-21). Finally, Farinas et al teach that the drug formulation may also include standard carriers or vehicles useful for facilitating drug delivery, like antioxidants (column 8, lines 14-16).

Farinas et al do not explicitly teach a transdermal drug delivery system comprising a rotigotine base or a matrix polymer that is amine-resistant silicone or a mixture of amine-resistant silicones.

Lauterbach et al teach a silicone-based transdermal therapeutic system that contains 0.1-3.15 mg/cm^2 of rotigotine as an active ingredient (abstract). According to Lauterbach et al, the silicone-based system must contain at least one amine resistant silicone compound as the main component (paragraph 0018). Lauterbach et al teach that usually the silicone compound will be a pressure sensitive adhesive and will form a matrix in which the other components of the system are embedded (paragraph 0017). Furthermore, Lauterbach et al teach the amounts of composition components in a table found in paragraph 0039. Rotigotine base is 9 wt.%, the amine resistant silicone compound is 89 wt.%. Moreover, Lauterbach et al teach the addition of antioxidants

such as ascorbyl palmitate, DL-alpha tocopherol, and sodium metabisulfate (table in paragraph 039). These antioxidants are present at 0.02 wt.%, 0.05 wt.%, and 0.0006 wt.% respectively.

Therefore, it would have been obvious to an artisan of ordinary skill to incorporate the active agent, rotigotine base, in combination with amine-resistant silicone into the transdermal patch of Farinas et al. One would have been motivated to do so since Farinas et al teach that dopaminergic agonists and antagonists can be used in its transdermal delivery systems and Lauterbach et al teach that the dopaminergic agonist, rotigotine base, is used in transdermal systems. Furthermore, it is within the skill of an artisan to select rotigotine base as an active agent depending on the necessary treatment. Thus, an artisan would incorporate rotigotine base if one needed to treat patients with Parkinson Disease, as suggested in Lauterbach. Moreover, it would have been obvious to an artisan of ordinary skill at the time the invention was made to incorporate amine-resistant silicones in combination with rotigotine base in the transdermal delivery systems of Farinas. One would have been motivated to do so since the matrix polymer has good compatibility with rotigotine base and does not react with the amino group contained in rotigotine, as taught in Lauterbach (paragraph 0017).

Regarding the limitation, "…wherein the rotigotine base is in the form of amorphous particles with a maximum mean diameter of 30 um in the reservoir layer…", it is noted that Farinas et al do not teach a particle size of amorphous drug in the reservoir layer. However, when comparing the method of preparing the matrix in the instant specification with Farinas et al, the examiner notes that Farinas et al and the

instant invention have the same method of making the transdermal patch. The instant invention does not use any solvents, crystallization inhibitors, or dispersants because crystalline rotigotine is converted into the amorphous form by heating the matrix to a temperature above the melting point of rotigotine. Like the instant invention, Farinas et al teach heating an admixture of polymer and rotigotine to a temperature that is higher than the actual melting temperature of the pure drug contained in the formulation to provide a system containing two liquid phases, one liquid phase comprising polymer and one liquid phase comprising drug formulation (column 3, lines 56-67). Furthermore, Farinas et al teach that when the phase containing drug is quenched rapidly, it results in an amorphous, glassy phase at ambient conditions (column 6, lines 42-44). Farinas et al teach that this method is particularly useful for drug-polymer systems wherein the drug has relatively low solubility in the polymeric material, which is preferably silicone adhesives (column 6, lines 51-60). As such, since Farinas et al appear to have the same method of making the transdermal patch as the instant invention, it is the position of the examiner that rotigotine base as amorphous particles with a maximum mean diameter of 30 um in the drug reservoir layer would be an obvious expected property of the transdermal delivery system of Farinas et al as *In re Spada, 911F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).* However, because the examiner has no access to laboratory equipment, burden shifts to applicant to prove otherwise as in *In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).*

Regarding newly added claims 29-31, it is the position of the examiner that since Farinas et al and Lauterbach et al teach the same amount of rotigotine base as instantly

claimed, a flow rate of rotigotine through human skin that is therapeutically effective, upon application of the system at intervals of 1 to 7 days, for treatment of morbus Parkinson, restless leg syndrome, and depression, would be an obvious expected property. Once again, burden shifts to applicant to prove otherwise.

Response to Arguments

Applicant's arguments filed 9/4/09 have been fully considered but they are moot in light of the new rejection above. The examiner notes that the above rejection uses Farinas as a primary reference and Lauterbach as a secondary reference. Since the combination of the above rejection is now based on the modification of Farinas instead of Lauterbach, applicant's arguments regarding the modification of Lauterbach are moot. However, the examiner will address any arguments presented by applicant which are still relevant to the rejection above in the following paragraphs.

First, the examiner notes that EP '340 (Lauterbach) is used in the above rejection instead of US 2003/0027793 (Lauterbach), which the examiner notes is statutory prior art under 102(b). Additionally, the examiner disagrees with applicant that the optional inclusion of crystallization inhibitors in Farinas would not lead an artisan to eliminate crystallization inhibitors in its transdermal delivery system. According to MPEP 2144, omission of an element and its function is obvious if the function of the element is not desired. *Ex parte Wu, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989)*. Thus, even though Farinas teaches an advantage of inclusion but not exclusion of crystallization inhibitors, Farinas still teaches that crystallization inhibitors may be incorporated in its transdermal

delivery systems. Moreover, according to MPEP 2121, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed…." *In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).* As such, just because Farinas teaches that it may be preferable to include crystallization inhibiters in its transdermal delivery system does not mean that Farinas is teaching away from the exclusion of crystallization inhibitors.

Additionally, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant further argues that there is no mention of rotigotine anywhere in Farinas and notes that rotigotine is sensitive to oxidation and therefore heating rotigotine must be performed very carefully.

In response to applicant's arguments, the examiner notes that in the above rejection Farinas does not teach rotigotine. However, the examiner contends that dopaminergic agonists can be used in the transdermal delivery systems of Farinas and rotigotine base is a dopaminergic agonist. Additionally, applicant's argument that

rotigotine base is sensitive to oxidation and heating is unsupported with no objective evidence. The examiner notes that applicant has failed to show that the steps involved in the process of making the transdermal delivery system of Farinas are different from the instant invention.

Lastly, applicant argues that Farinas is too generic and teaches too many possible systems to lead to expectation that all such systems would be successful. Applicant argues that it is plainly incredible that an ordinary artisan could predict with any reasonable expectation of success that specifically rotigotine could work without solvent, crystallization inhibitor and dispersant, and further that specifically rotigotine could work in any one of the numerous possible systems of Farinas. Applicant argues that it could not have been predicted that after 12 months storage, no signs of rotigotine crystallization or change in particle size would be observed.

In response to applicant's arguments, the examiner contends that it would have been obvious to an artisan of ordinary skill at the time the invention was made to select from the finite possibilities of drugs and excipients mentioned in Farinas and arrive at the instantly claimed invention. In KSR v. Telefex, 82 USPQ2d 1385, 1397 (U.S. 2007), the Supreme Court has held that when there is market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person has good reason to pursue known options within his or her technical grasp. Under these conditions, "obviousness to try" such options is permissible. Therefore, one would have been motivated to try a dopaminergic agonist with the elimination of solvent, crystallization inhibitor and dispersant with a reasonable expectation of success since Farinas

suggests it within a finite number of identified possibilities. Moreover, regarding applicant's argument that it could not have been predicted by one of skill in the art that a storage-stable matrix could be prepared containing rotigotine base, the examiner notes that applicant is not claiming a storage-stable matrix and has failed to provide any objective evidence that compares the instant invention's stability to the closest prior art.

As such, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

Claims 12-19 and 29-31 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHAEL E. WELTER whose telephone number is (571) 270-5237. The examiner can normally be reached 7:30-5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached at 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

REW

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611
November 22, 2009